PATENT

SERIAL NO.: <u>08/533,895</u>

Atty. Doc. No.: 2026-4205

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:

Suzanne L. Topalian, Steven A. Rosenberg and

Paul F. Robbins

SERIAL NO.

08/533,895

GROUP ART UNIT

: To be Assigned

FILED

September 26, 1995

EXAMINER

: To be Assigned

FOR

MHC CLASS II RESTRICTED MELANOMA ANTIGENS AND

THEIR USE IN THERAPEUTIC METHODS

<u>STATEMENT</u> <u>Under 37 C.F.R. §1.821(f) or §1.825(b)</u>

Commissioner of Patents and Trademarks Washington, D.C. 20231

Sir:

I hereby certify that:

[X] The paper Sequence Listing and computer readable Sequence Listing submitted herewith are identical (37 C.F.R. §1.821 (f)).

[] The substitute paper Sequence Listing and substitute computer readable Sequence Listing submitted herewith are identical. No new matter is included. (37 C.F.R. §1.825 (b)).

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Dated: December 8,1995

By:

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SEQUENCE LISTING

(1) GENERAL	INFORMATION:

- (i) APPLICANTS: TOPALIAN, SUZANNE L.; ROSENBERG, STEVEN A.; ROBBINS, PAUL F.
- (ii) TITLE OF INVENTION: MHC-CLASS II
 RESTRICTED MELANOMA ANTIGENS AND THEIR USE IN
 DIAGNOSTIC AND THERAPEUTIC METHODS
- (iii) NUMBER OF SEQUENCES: 38
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
 - (B) STREET: 345 PARK/AVENUE
 - (C) CITY: NEW YORK
 - (D) STATE: NEW YORK
 - (E) COUNTRY: USA
 - (F) ZIP: 10154
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: FLOPPY DISK
 - (B) COMPUTER: / IBM PC COMPATIBLE
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: ASCII
- (vi) CURRENT APPL/ICATION DATA:
 - (A) APPLICATION NUMBER: 08/533,895
 - (B) FILING DATE: 26-SEPT-1995
 - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: CAROL M. GRUPPI
 - (B) REGISTRATION NUMBER: 37,341
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 - (C) / TELEX: 421792
- (2) INFORMATION FOR SEQ ID NO:1:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Gln Asn Ile Leu Leu Ser Asn Ala Pro Leu Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:2:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Asn Ile Leu Leu Ser Asn Ala Pro Leu Gly Pro Gln
1 5 10

Phe Pro

- (2) INFORMATION FOR SEQ ID NO:3:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Gln Asn Ile Leu Leu Ser Asn Ala Pro Val Gly Pro 1 5 10

- (2) INFORMATION FOR SEQ ID NO:4:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN

- (D) TOPOLOGY: UNKNOWN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Gln Asn Ile Leu Leu Ser Asn Val Pro Val Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:5:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Gln Asn Ile Leu Leu Ser Asn Val Pro Leu Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:6:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Asp Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser

- (2) INFORMATION FOR SEQ ID NO:7:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Asp Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser 1 5 10

Ser Gln Asp

- (2) INFORMATION FOR SEQ ID NO:8:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Asp Gln Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser 1 5 10

- (2) INFORMATION FOR SEQ ID NO:9:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Asp Phe Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser 1 5 10

Phe Gln Asp

- (2) INFORMATION FOR SEQ ID NO:10:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Asp Tyr Ser Phe Leu Gln Asp Ser Asp Pro Asp Ser 1 5 10

Phe Gln Asp

- (2) INFORMATION FOR SEQ ID NO:11:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Asp Tyr Ser Tyr Leu Gln Asp Ser Val Pro Asp Ser 1 5 10

- (2) INFORMATION FOR SEQ ID NO:12:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 13
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Ser Tyr Leu Gln Asp Ser Val Pro Asp Ser Phe Gln 1 5 10

Asp

- (2) INFORMATION FOR SEQ ID NO:13:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser Phe
1 5 10

Gln Asp

- (2) INFORMATION FOR SEQ ID NO:14:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 13
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser Phe Gln 1 5 10

Asp

- (2) INFORMATION FOR SEQ ID NO:15:
 - (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9
- (B) TYPE: AMINO ACID
- (C) STRANDEDNESS: UNKNOWN
- (D) TOPOLOGY: UNKNOWN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Xaa Leu Leu Xaa Asn Xaa Xaa Leu Xaa 1 5

- (2) INFORMATION FOR SEQ ID NO:16:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 9
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Xaa Leu Gln Xaa Ser Xaa Xaa Asp Xaa 1 5

- (2) INFORMATION FOR SEQ ID NO:17:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Gln Asn Gln Leu Leu Ser Asn Ala Pro Leu Gly Pro 1 5 10

Gln Phe Pro

15

- (2) INFORMATION FOR SEQ ID NO:18:
 - (i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 15
- (B) TYPE: AMINO ACID
- (C) STRANDEDNESS: UNKNOWN
- (D) TOPOLOGY: UNKNOWN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Gln Asn Phe Leu Leu Ser Asn Ala Pro Leu Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:19:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Gln Asn Val Leu Leu Ser Asn Ala Pro Leu Gly Pro 1 5 10

- (2) INFORMATION FOR SEQ ID NO:20:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Gln Asn Ile Gln Leu Ser Asn Ala Pro Leu Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:21:
 - (i) SEOUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Gln Asn Ile Phe Leu Ser Asn Ala Pro Leu Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:22:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Gln Asn Ile Val Leu Ser Asn Ala Pro Leu Gly Pro 1 5 10

- (2) INFORMATION FOR SEQ ID NO:23:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Gln Asn Ile Leu Gln Ser Asn Ala Pro Leu Gly Pro 1 5 10

Gln Phe Pro

- (2) INFORMATION FOR SEQ ID NO:24:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Gln Asn Ile Leu Phe Ser Asn Ala Pro Leu Gly Pro 1 5 10

Gln Phe Pro

- (2) INFORMATION FOR SEQ ID NO:25:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Gln Asn Ile Leu Val Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro

(2) INFORMATION FOR SEQ ID NO:26:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Gln Asn Ile Leu Leu Ser Asn Gln Pro Leu Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:27:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Gln Asn Ile Leu Leu Ser Asn Ala Gln Leu Gly Pro

- (2) INFORMATION FOR SEQ ID NO:28:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Gln Asn Ile Leu Leu Ser Asn Ala Val Leu Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:29:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Gln Asn Ile Leu Leu Ser Asn Ala Pro Gln Gly Pro 1 5 10

Gln Phe Pro 15

- (2) INFORMATION FOR SEQ ID NO:30:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 13
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Ile Leu Leu Ser Asn Ala Pro Leu Gly Pro Gln Phe 1 5 10

Pro

- (2) INFORMATION FOR SEQ ID NO:31:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 11
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Leu Leu Ser Asn'Ala Pro Leu Gly Pro Gln Phe 1 5 10

- (2) INFORMATION FOR SEQ ID NO:32:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 10
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Leu Ser Asn Ala Pro Leu Gly Pro Gln Phe 1 5 10

- (2) INFORMATION FOR SEQ ID NO:33:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 9
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Ser Asn Ala Pro Leu Gly Pro Gln Phe 1 5

- (2) INFORMATION FOR SEQ ID NO:34:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Asp Tyr Ser Gln Leu Gln Asp Ser Asp Pro Asp Ser 1 5 10

Phe Gln Asp

- (2) INFORMATION FOR SEQ ID NO:35:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Asp Tyr Ser Tyr Gln Gln Asp Ser Asp Pro Asp Ser 1 5 10

Phe Gln Asp

- (2) INFORMATION FOR SEQ ID NO:36:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Asp Tyr Ser Tyr Phe Gln Asp Ser Asp Pro Asp Ser 1 5 10

- (2) INFORMATION FOR SEQ ID NO:37:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 12
 - (B) TYPE: AMINO ACID

- (C) STRANDEDNESS: UNKNOWN
- (D) TOPOLOGY: UNKNOWN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Tyr Leu Gln Asp Ser Asp Pro Asp Ser Phe Gln Asp
1 5 10

- (2) INFORMATION FOR SEQ ID NO:38:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 11
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Leu Gln Asp Ser Asp Pro Asp Ser Phe Gln Asp
1 5 10